REMARKS

Applicant respectfully requests reconsideration of this application in view of the following remarks. For the Examiner's convenience and reference, Applicant's remarks are presented in substantially the same order in which the corresponding issues were raised in the Office Action.

Claims 5 and 13 have been currently amended. No claims are canceled. No new matter has been added.

The preamble of claim 13 has been amended to correct a grammatical error.

Applicants reserve all rights with respect to the applicability of the Doctrine of equivalents.

The Examiner rejected claims 1-4, 7, 10 and 12 under 35 U.S.C. § 103(a) as allegedly being unpatentable over Maliszewski et al. (US Patent no. 6,467,233, hereinafter "Maliszewski") in view of Ollgaard (US Patent Publication no. 2003/0147753, hereinafter "Ollgaard").

Claim 1 recites:

> A modular kit for a tower of a wind energy turbine, comprising:
>
> a first conical tower segment comprising a steel tube having a predetermined length,
>
> a second conical tower segment comprising a steel tube having a predetermined length, wherein the first conical tower segment is to be coupled to the second conical tower segment in an assembled condition, the diameter of the first conical tower segment at a lower end being equal to the diameter of the second conical tower segment at an upper end, and
>
> **a first variable-length cylindrical tower segment comprising a steel tube having a length that can be varied between a predetermined minimum length and a predetermined maximum length,**
>
> **wherein the length of the first variable-length cylindrical tower segment can be adapted to the necessary height of the tower between its minimum height and its maximum height, the minimum height being the sum of the predetermined lengths of the first and second conical tower segments and the minimum length of the first variable-length cylindrical tower segment, and the maximum height being the sum of the predetermined lengths of the first and second conical tower segments and the maximum length of the first variable-length cylindrical tower segment.** (Emphasis added).

The Office Action reads as follows.

> A first variable-length cylindrical tower segment (22, figure 2) comprising a steel tube (column 2 lines 15-18 teach steel construction) having a length that can be varied. (The examiner construes that since Maliszewski discloses towers between 60 and 80 meters are comprised of three sections, the lengths of those sections would need to be variable lengths. For instance, to create a tower with a height of 60 meters, three 20 meter segments would be used, with the three segment lengths adding up to the total length of 60 meters. In order to create an 80 foot tower using three segments, three sections approximately 26.7 meters in length would be used. Since different length tower segments would need to be used to create the towers of Maliszewski, the lengths of the sections would need to be varied, thus, the limitations of the claim as amended are met). (Office Action, 08/04/2009, pages 4 and 5).

The applicants respectfully disagree with the characterization of the ring 22 of Maliszewski as being a variable-length cylindrical tower segment.

The Examiner is not free to construe the ring 22 of Maliszewski in any manner he pleases. The ring 22 must be interpreted based on the specification of Maliszewski. Even though Maliszewski teaches that the tower can range in height from 32 to over 80 meters, nothing in Maliszewski teaches that the first bottom ring 22 is a **variable-length segment** that can be **varied between a predetermined minimum length and a predetermined maximum length.** In fact, it appears that Maliszewski explicitly teaches that the height of the tower can only be changed by adding additional sections. In particular, Maliszewski teaches that for towers less than 60 meters, two sections are used, namely bottom section 12 and upper section 14. Maliszewski at col. 2, lines 36-38, Figures 1-2. For towers between 60 to 80 meters, three sections are used, namely the bottom, upper, and middle sections (not illustrated), and for the towers over 80 meters, four sections are used, namely the bottom and upper sections, and two additional sections. *Id.* at col. 3, lines 22-26.

The Examiner construes Maliszewski to teach that the ring 22 would be a first length for a 60m tower and second longer length for a 80m tower.

However, Maliszewski does not teach that any sections are varied in height, or that the ring 22 is varied in height, but rather that the height of the tower is changed by adding additional sections. Thus, the first bottom ring 22 is not a variable-length section that has a length that can be varied between different lengths. As such, Maliszewski fails to teach "a first variable-length cylindrical tower segment comprising a steel tube

having a length that can be varied between a predetermined minimum length and a predetermined maximum length," as recited in claim 1.

Claim 1 also recites "wherein the length of the **first variable-length cylindrical tower segment** can be adapted to the necessary height of the tower between its minimum height and its maximum height, **the minimum height being the sum of the predetermined lengths of the first and second conical tower segments and the minimum length of the first variable-length cylindrical tower segment, and the maximum height being the sum of the predetermined lengths of the first and second conical tower segments and the maximum length of the first variable-length cylindrical tower segment.**"

The Office Action characterizes the conical transition rings 56 and 58 as being the first and second conical tower segments of claim 1. The Office Action indicates that it would have been obvious to one of ordinary skill in the art to determine that the different segments of the towers of Maliszewski have maximum and minimum predetermined lengths in order to create towers at the desired height specification using an exact amount of segment sections.

Maliszewski teaches that the conical **transition** ring 56 is separated from the conical **transition** ring 58 with rings 50, 48, 46, 44, 42, 40, and 38. Conical **transition** ring 58 is separated from the ring 22 with rings 36, 34, 32, 30, 28, 26, and 24. (See figures 2, 4, and 5). As discussed above, it appears that Maliszewski explicitly teaches that the height of the tower can only be changed by adding additional sections. In particular, Maliszewski teaches that for towers less than 60 meters, two sections are used, namely bottom section 12 and upper section 14 as illustrated in Figures 2, 4, and 5. Maliszewski at col. 2, lines 36-38. For towers between 60 to 80 meters, three sections are used, namely the bottom, upper, and middle sections (not illustrated), and for the towers over 80 meters, four sections are used, namely the bottom and upper sections, and two additional sections. *Id.* at col. 3, lines 22-26.

Thus, one of ordinary skill in the art reading Maliszewski would determine that a minimum height tower would use ring 22, 24-26, transition ring 58, rings 38-50, and transition ring 56 for a tower less than 60m. A taller tower or maximum height tower would require these rings, which form sections 12 and 14, and two additional sections. *Id.*

at col. 3, lines 22-26. One of ordinary skill in the art would NOT find that the minimum height of the tower in Maliszewski is the sum of the conical **transition** rings 56 and 58 and the minimum length of the ring 22. Nor would one of ordinary skill in the find that the maximum height of the tower is the sum of the conical **transition** rings 56 and 58 and the minimum length of the ring 22. In fact, one of ordinary skill in the art would likely find that the sum of the conical **transition** rings 56 and 58 and the length of the ring 22 results in a tower height that is **less** than a radius of the rotor of the wind turbine generator 20. This configuration would render the wind turbine generator completely inoperable for its intended use because the rotor would not be able to rotate even in windy conditions.

It is respectfully submitted that it would NOT have been obvious to one of ordinary skill in the art to modify Maliszewski to obtain the limitations of claim 1.

Accordingly, Maliszewski fails to teach or suggest the limitations "a first variable-length cylindrical tower segment comprising a steel tube having a length that can be varied between a predetermined minimum length and a predetermined maximum length, wherein the length of the first variable-length cylindrical tower segment can be adapted to the necessary height of the tower between its minimum height and its maximum height, the minimum height being the sum of the predetermined lengths of the first and second conical tower segments and the minimum length of the first variable-length cylindrical tower segment, and the maximum height being the sum of the predetermined lengths of the first and second conical tower segments and the maximum length of the first variable-length cylindrical tower segment" as recited in claim 1.

It is respectfully submitted that Ollgaard fails to cure the deficiencies of Maliszewski. Ollgaard teaches a wind turbine having conical subsections 11-14.

Ollgaard fails to teach or suggest the limitations "a first variable-length cylindrical tower segment comprising a steel tube having a length that can be varied between a predetermined minimum length and a predetermined maximum length, wherein the length of the first variable-length cylindrical tower segment can be adapted to the necessary height of the tower between its minimum height and its maximum height, the minimum height being the sum of the predetermined lengths of the first and second conical tower segments and the minimum length of the first variable-length cylindrical

tower segment, and the maximum height being the sum of the predetermined lengths of the first and second conical tower segments and the maximum length of the first variable-length cylindrical tower segment" as recited in claim 1.

It is respectfully submitted that Maliszewski does not suggest a combination with Ollgaard, and Ollgaard does not suggest a combination with Maliszewski. It would be impermissible hindsight to combine Maliszewski with Ollgaard based on applicants' own disclosure.

Furthermore, even if Maliszewski and Ollgaard were combined, such a combination would lack the limitations "a first variable-length cylindrical tower segment comprising a steel tube having a length that can be varied between a predetermined minimum length and a predetermined maximum length, wherein the length of the first variable-length cylindrical tower segment can be adapted to the necessary height of the tower between its minimum height and its maximum height, the minimum height being the sum of the predetermined lengths of the first and second conical tower segments and the minimum length of the first variable-length cylindrical tower segment, and the maximum height being the sum of the predetermined lengths of the first and second conical tower segments and the maximum length of the first variable-length cylindrical tower segment" as recited in claim 1.

Therefore, in view of the above distinction, neither Maliszewski nor Ollgaard, individually or in combination, disclose each and every limitation of claim 1. As such, claim 1 is not rendered obvious by Maliszewski in view of Ollgaard under 35 U.S.C. § 103(a).

Independent claim 13 contains similar limitations but not identical. For similar reasons, independent claim 13 is not rendered obvious by Maliszewski in view of Ollgaard under 35 U.S.C. § 103(a).

It is submitted that claims 2-4, 7, 10, 12, and 14 are not rendered obvious by Maliszewski in view of Ollgaard under 35 U.S.C. § 103(a) given that claims 2-4, 7, 10, 12 and 14 depend from and include the limitations of one of the corresponding independent claims 1 and 13.

Claims 5, 6, and 15-16 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Maliszewski in view Ollgaard in view of Hanson (U.S. Patent 4,272,929, hereinafter "Hanson").

Claims 5, 6, and 15-16 directly or indirectly depend from independent claims 1 or 13. As discussed above, Maliszewski and Ollgaard fail to teach or suggest all of the features of the independent claims. Hanson does not cure those deficiencies.

Additionally, claim 5, as amended, includes "a further tower segment that is formed of a prestressed-concrete tube comprising a door opening and having a length…." Claim 15 recites "wherein the further tower segment is formed of a prestressed-concrete tube having a door opening…"

The Office Action indicates that Maliszewski fails to disclose a lower tower segment comprising reinforced concrete. (Office Action, 08/04/09, page 12). Applicants agree that Maliszewski fails to disclose a lower tower segment comprising reinforced concrete. Maliszewski also fails to teach or suggest a tower segment that is formed of a prestressed-concrete tube having a door opening.

The Office Action then indicates that Hanson teaches a tower for wind generator having a lower segment filled with concrete and that it would have been obvious to one of ordinary skill in the art at the time the invention was made to fill the base segment of Maliszewski with concrete as taught by Hanson in order to provide a stronger tower structure. Applicants respectfully disagree.

Hanson discloses a tower 10 having a lowest section 12 that is embedded with cement 18 and 52 to anchor and hold the tower as illustrated in Figure 1.

In contrast to amended claims 5 and 15, Hanson fails to teach or suggest a **tower segment that is formed of a prestressed-concrete tube comprising a door opening** because Hanson merely discloses filling tower segment 12 with concrete. Hanson is silent regarding a prestressed-concrete tube and also is silent regarding the tower segment having a door opening. Thus, Hanson fails to teach or suggest the limitations of amended claims 5 and 15.

The Office Action characterizes the ring 22 having a door opening of Maliszewski as being the further tower segment of claims 5 and 15. According to the Examiner, it would be obvious to one of ordinary skill in the art to fill the ring 22 with concrete to

provide a stronger tower structure with greater resistance to high winds and seismic activity.

However, Maliszewski teaches a submerged concrete foundation 18 that is coupled to the ring 22 with a flange 17. Maliszewski has no need to fill the steel ring 22 with concrete because of the submerged concrete foundation 18. Additionally, Maliszewski discloses that in the preferred embodiment, a door 21, is placed in the bottom section 14, to permits access to the interior of the tower for painting, bolt tightening or wind turbine maintenance. In a preferred embodiment, the door is a water resistant door, such as a door with an encapsulated gasket, which additionally, can be locked. Maliszewski at col. 3, lines 36-41. Maliszewski also discloses that on the interior of the tower, is welded a ladder assembly having parallel legs and rungs disposed between the legs and affixed thereto as detailed in FIG. 9. The ladder is preferably made from of a polymer, PVC, fiberglass, plastic coated metal, laminate structure or combinations of those materials. The ladder is installed to be spaced from the sides of the tower using supporting brackets, which enable maintenance people to use the interior of the tower and repair the wind turbine without the need for any additional safety equipment, such as a safety harness. The unique ladders are constructed so that the back of the maintenance person is in close contact with the interior wall of the tower so that climbing occurs more safely than other position, preferably no more than thirty inches away from the tower wall. Maliszewski at col. 3, lines 35-48. Figures 2 and 4 illustrate the ring 22 having a door 21 with a ladder L1.

A combination of Maliszewski and Hanson as suggested by the Examiner would fill the steel ring 22 with cement such that the door 21 would likely not open. Additionally, even if the door 21 did open, the ladder would not be accessible because of the concrete that was filled into the ring 22. Maintenance people would be unable to access the ladder and interior of the tower. The unique ladder and door would be rendered inoperable for their intended use. Thus, it would NOT be obvious to one of ordinary skill in the art to combine Maliszewski and Hanson as suggested by the Examiner.

Furthermore, even if Maliszewski and Hanson were combined, such a combination would lack the limitation "a further tower segment that is formed of a

prestressed-concrete tube comprising a door opening and having a length…." as recited in claim 5 and the limitation "wherein the further tower segment is formed of a prestressed-concrete tube having a door opening…" as recited in claim 15.

Applicants respectfully submit that claims 5, 6, and 15-16 are patentable over the combination of cited references because the combination does not teach or suggest all of the features of the claims.

Accordingly, Applicants request that the rejection of claims 5, 6, and 15-16 under 35 U.S.C. §103(a) be withdrawn.

Claims 8, 9 and 11 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Maliszewski in view of Ollgaard in view of Farber. Claims 8, 9, and 11 directly or indirectly depend from the independent claim 1. As discussed above, Maliszewski and Ollgaard fail to teach or suggest all of the features of claim 1. Farber does not cure those deficiencies. Accordingly, Applicants request that rejection of claims 8, 9, and 11 under 35 U.S.C. §103(a) be withdrawn.

CONCLUSION

It is respectfully submitted that in view of the amendment and remarks set forth herein, the rejections have been overcome. If the Examiner believes a telephone interview would expedite the prosecution of this application, the Examiner is invited to contact Jeremy A. Schweigert at (408) 720-8300.

If there are any additional charges, please charge them to Deposit Account No. 02-2666.

Respectfully submitted,

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Date: November 4, 2009

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